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<120> METHOD FOR THE AMPLIFICATION OF HLA CLASS I ALLELES

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<140> PCT/EP00/02998

<141> 2000-04-05

<150> EP 99870068.6

<151> 1999-04-09

<150> US 60/138,614

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ccaggttggg cggggcgggg cggggctcgg gggaccgggc tgaccgcggg gtccgggcca 240
g 241
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<210> 318
<211> 241
<212> DNA
<213> Homo sapiens

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<400> 318
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cccgaggagag gccaggcgc ctttaccggg ttctattttc agtttaggcc aaaaatcccc 180
ccaggttggg cggggcgggg cggggctcgg gggaccgggc tgaccgcggg gtccgggcca 240
g 241
```

<210> 319
<211> 241
<212> DNA
<213> Homo sapiens

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<400> 319
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tcgcccacag tctccgggtc cgagatccgc cccgaagccg cgggacccc agacccttgc 120
cccgaggagag gccaggcgc ctttaccggg ttctattttc agtttaggcc aaaaatcccc 180
ccaggttggg cggggcgggg cggggctcgg gggaccgggc tgaccgcggg gtccgggcca 240
g 241
```

<210> 320
<211> 241
<212> DNA
<213> Homo sapiens

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<400> 320
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tcgcccacag tctccgggtc cgagatccgc cccgaagccg cgggacccc agacccttgc 120
cccgaggagag gccaggcgc ctttaccggg ttctattttc agtttaggcc aaaaatcccc 180
ccaggttggg cggggcgggg cggggctcgg gggaccgggc tgaccgcggg gtccgggcca 240
g 241
```

<210> 321
<211> 240

<212> DNA
<213> Homo sapiens

<400> 321
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cgcccacagt ctccgggtcc gagatccgcc ccgaagccgc gggaccccga gacccttgcc 120
ccgggagagg gccaggcgcc tttaaccggg ttcatcttca gtttaggcca aaaatcccc 180
cgggttggtc ggggcggggc ggggctcggg ggaccgggct gaccgcgggg tccgggccag 240

<210> 322
<211> 241
<212> DNA
<213> Homo sapiens

<400> 322
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tcgcccacag tctccgggtc cgagatccgc ccgaagccgc cgggaccccg agacccttgc 120
cccgggagag gccaggcgcc ctttaaccgg ttcatcttca agtttaggcc aaaaatcccc 180
cgggttggtc cggggcgggg cggggctcgg gggaccgggc tgacctcggg gtccgggccca 240
g 241

<210> 323
<211> 241
<212> DNA
<213> Homo sapiens

<400> 323
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cccgggagag gccaggcgcc ctttaaccgg ttcatcttca agtttaggcc aaaaatcccc 180
cgggttggtc cggggcgggg cggggctcgg gggaccgggc tgacctcggg gtccgggccca 240
g 241

<210> 324
<211> 241
<212> DNA
<213> Homo sapiens

<400> 324
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cccgggagag gccaggcgcc ctttaaccgg ttcatcttca agtttaggcc aaaaatcccc 180
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g 241

<210> 325
<211> 241
<212> DNA
<213> Homo sapiens

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cccgggagag gccaggcgcc ctttaaccgg ttcatcttca agtttaggcc aaaaatcccc 180
cgggttggtc cggggcgggg cggggctcgg gggaccgggc tgacctcggg gtccgggccca 240
g 241

<210> 326
<211> 240
<212> DNA
<213> Homo sapiens

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cgcccacagt ctccgggtcc gagatccgcc ccgaagccgc gggaccccga gacccttgcc 120
ccgggagagg ccagggcgcc ttaccgggt ttcattttca gtttaggcca aaaatcccc 180
cgggttggtc ggggcggggc ggggctcggg ggaccgggct gacctcggg tccgggccag 240

<210> 327
<211> 240
<212> DNA
<213> Homo sapiens

<400> 327
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ccgggagagg ccagggcgcc tttagccggg ttcattttca gtttaggcca aaaatcccc 180
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<210> 328
<211> 240
<212> DNA
<213> Homo sapiens

<400> 328
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ccgggagagg ccagggcgcc ttaccgggt ttcattttca gtttaggcca aaaattcccc 180
cgggttggtc ggggctgggc ggggctcggg ggactgggct gaccgcgggg tcggggccag 240

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<212> DNA
<213> Homo sapiens

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ccgggagagg ccagggcgcc ttaccgggt ttcattttca gtttaggcca aaaattcccc 180
cgggttggtc ggggctgggc ggggctcggg ggactgggct gaccgcgggg tcggggccag 240

<210> 330
<211> 241
<212> DNA
<213> Homo sapiens

<400> 330
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tcgcccacag tctccgggtc cgagatccac ccgaagccgc cgggaccccg agacccttga 120
cccgggagag gccaggcgcc cttaccggg ttcattttc agtttaggcc aaaaattccc 180
ccgggttggt cggggtcggg cggggtcggg ggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 331
<211> 241
<212> DNA
<213> Homo sapiens

<400> 331
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cccgaggag gcccaggcgc ctttaccggt tttcattttc agtttaggcc aaaaatcccc 180
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g 241

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<213> Homo sapiens

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cccgaggag gcccaggcgc ctttaccggt tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggg cggggcgggg cggggctcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

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<211> 241
<212> DNA
<213> Homo sapiens

<400> 333
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cccgaggag gcccaggcgc ctttaccggt tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggg cggggccggg cggggctcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 334
<211> 241
<212> DNA
<213> Homo sapiens

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cccgaggag gcccaggcgc ctttaccggt tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggg cggggccggg cggggctcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 335
<211> 241
<212> DNA
<213> Homo sapiens

<400> 335
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tcgcccacag tctccgggtc cgagatccac ccgaagccg cgggaccccg agacccttgc 120

ccccgggagag gccagggcgc cttaacccgg tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccggg cggggctcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 336
<211> 241
<212> DNA
<213> Homo sapiens

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tcgcccacag tctccgggtc cgagatccac cccgaagccg cgggaccccg agacccttgc 120
ccggggagag gccagggcgc cttaacccgg tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccggg cggggctcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 337
<211> 241
<212> DNA
<213> Homo sapiens

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ccggggagag gccagggcgc ctttacccgg tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccggg cagggtcgg gggactgggc tgaccgcggg gtcggggcca 240
g 241

<210> 338
<211> 241
<212> DNA
<213> Homo sapiens

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tcgcccacag tctccgggtc cgagatccgc cccgaagccg cgggaccccg agacccttgc 120
ccggggagag gccagggcgc ctttacccgg tttcattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241

<210> 339
<211> 240
<212> DNA
<213> Homo sapiens

<400> 339
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cgcccacagt ctcgggtcc gagatccacc ccgaagccgc gggaccccg gacccttgc 120
ccgggagagg cccagggcgc tttacccggt ttcattttca gtttaggcca aaaatcccc 180
cgggttggtc ggggcccggac ggggctcgg ggaactgggt gaccgtggg tcggggccag 240

<210> 340
<211> 241
<212> DNA
<213> Homo sapiens

<400> 340

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tcgcccacag tctccgggtc cgagatccac cccgaagccg cgggaccccg agacccttgc 120
cccgggagag gccagggcg ctttaccggg ttccattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241
```

<210> 341

<211> 241

<212> DNA

<213> Homo sapiens

<400> 341

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cccgggagag gccagggcg ctttaccggg ttccattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241
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<210> 342

<211> 241

<212> DNA

<213> Homo sapiens

<400> 342

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cccgggagag gccagggcg ctttaccggg ttccattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241
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<210> 343

<211> 241

<212> DNA

<213> Homo sapiens

<400> 343

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tcacccacag tctccgggtc cgagatccac cccgaagccg cgggaccccg agacccttgc 120
cccgggagag gccagggcg ctttaccggg ttccattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241
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<210> 344

<211> 241

<212> DNA

<213> Homo sapiens

<400> 344

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tcacccacag tctccgggtc cgagatccac cccgaagccg cgggaccccg agacccttgc 120
cccgggagag gccagggcg ctttaccggg ttccattttc agtttaggcc aaaaatcccc 180
ccgggttggt cggggccgga cggggctcgg gggactgggc tgaccgtggg gtcggggcca 240
g 241
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<210> 345

<211> 244
<212> DNA
<213> Homo sapiens

<400> 345
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cgaccggcga gagccccagg cgcgtttacc cggtttcatt ttcagttgag gccaaaatcc 180
ccgcgggttg gtcggggcgg ggccgggctc ggggggacgg ggctgaccgc ggggcctggg 240
ccag 244

<210> 346
<211> 251
<212> DNA
<213> Homo sapiens

<400> 346
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cctcgaccgg cgagagcccc aggcgcgttt acccggtttc attttcagtt gaggccaaaa 180
tccccgcggg ttggtcgggg cggggcgggg cggggctcgg gggacggggc tgaccgcggg 240
gcctggggcca g 251

<210> 347
<211> 246
<212> DNA
<213> Homo sapiens

<400> 347
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tcgccccgga gtctccgggt ccgagatccg cccccctgag gccggggacc cgcgccagacc 120
ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggctgacc gcggggccgg 240
ggccag 246

<210> 348
<211> 242
<212> DNA
<213> Homo sapiens

<400> 348
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gaccggcgag agccccaggc gcgtttaccc ggtttcattt tcagttgagg ccaaaaatccc 180
cgcggggttg tcggggcggg gcggggctcg ggggacgggg ctgaccgcgg ggccggggcc 240
ag 242

<210> 349
<211> 246
<212> DNA
<213> Homo sapiens

<400> 349
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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggtc ggggctgacc gcggggccgg 240

ggccag

246

<210> 350
<211> 246
<212> DNA
<213> Homo sapiens

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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac gggactgacc gcggggccgg 240
ggccag 246

<210> 351
<211> 243
<212> DNA
<213> Homo sapiens

<400> 351
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cgaccggcga gagccccagg cgcgtttacc cggtttcatt ttcagttgag gccaaaatcc 180
ccgcggggtt gtcggggcgg ggcggggctc gggggacggg gctgaccgcg gggccggggc 240
cag 243

<210> 352
<211> 246
<212> DNA
<213> Homo sapiens

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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gggctgaccg cggggccggg 240
gccagg 246

<210> 353
<211> 245
<212> DNA
<213> Homo sapiens

<400> 353
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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gggctgaccg cggggccggg 240
gccag 245

<210> 354
<211> 246
<212> DNA
<213> Homo sapiens

<400> 354

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tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cgcccagacc 120
ctcgaccggc gagagcccc ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggtgacc gcggggccgg 240
ggccag 246
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<210> 355
<211> 245
<212> DNA
<213> Homo sapiens

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tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cgcccagacc 120
ctcgaccggc gagagcccc ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggtgacc cgggggccgg 240
ggcag 245
```

<210> 356
<211> 245
<212> DNA
<213> Homo sapiens

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<400> 356
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ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggtgacc cgggggccgg 240
ggcag 245
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<210> 357
<211> 246
<212> DNA
<213> Homo sapiens

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ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggtgacc gcggggccgg 240
ggccag 246
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<210> 358
<211> 246
<212> DNA
<213> Homo sapiens

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<400> 358
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ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggtgacc gcggggccgg 240
ggccag 246
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<210> 359
<211> 246

<212> DNA

<213> Homo sapiens

<400> 359

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ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggctgacc gcggggccgg 240
ggccag 246
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<210> 360

<211> 245

<212> DNA

<213> Homo sapiens

<400> 360

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ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gtgctgaccg cggggccggg 240
gccag 245
```

<210> 361

<211> 245

<212> DNA

<213> Homo sapiens

<400> 361

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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagtta aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gtgctgaccg cggggccggg 240
gccag 245
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<210> 362

<211> 245

<212> DNA

<213> Homo sapiens

<400> 362

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ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagtta aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gtgctgaccg cggggccggg 240
gccag 245
```

<210> 363

<211> 245

<212> DNA

<213> Homo sapiens

<400> 363

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gtgagtgacc ccggcccggg ggcaggtca cgactcccca tccccacgt acggcccggg 60
tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cgcccagacc 120
ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagtta aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gtgctgaccg cggggccggg 240
gccag 245
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<210> 364
<211> 245
<212> DNA
<213> Homo sapiens

<400> 364
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tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cggccagacc 120
ctcgaccggc gagagcccca ggcggttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggact gggctgaccg cggggccggg 240
gccag 245

<210> 365
<211> 244
<212> DNA
<213> Homo sapiens

<400> 365
gtgagtgacc ccggccccggg ggcaggtca cgactcccca tccccacgt acggccccggg 60
tcgccccgag tctccgggtc cgagatccgc ccccgaggcc gggggaccgc cccagaccct 120
cgaccggcga gagccccagg cgcgtttacc cggtttcatt ttcagttgag gccaaaatcc 180
ccgcggtttg gtcggggcgg ggcggggctc ggggggacgg ggctgaccgc gggggcgggg 240
ccag 244

<210> 366
<211> 244
<212> DNA
<213> Homo sapiens

<400> 366
gtgagtgacc ccggccccggg ggcaggtca cgactcccca tccccacgg acggccccggg 60
tcgccccgag tctccgggtc cgagatccgc ccccgaggcc gggggaccgc cccagaccct 120
cgaccggcga gagccccagg cgcgtttacc cggtttcatt ttcagttgag gccaaaatcc 180
ccgcggtttg gtcggggcgg ggcggggctc ggggggacgg ggctgaccgc gggggcgggg 240
ccag 244

<210> 367
<211> 245
<212> DNA
<213> Homo sapiens

<400> 367
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tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cggccagacc 120
ctcgaccggc gagagcccca ggcggttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggctgacc gggggggcgg 240
ggccg 245

<210> 368
<211> 246
<212> DNA
<213> Homo sapiens

<400> 368
gtgagtgacc ccggccccggg ggcaggtca cgactcccca tccccacgt acggccccggg 60

tgcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcggggacc cgcccagacc 120
ctcgaccggc gagagcccca ggcgcggtta cccgggttca ttttcagttg aggccaaagt 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac ggggctgacc cgggggccgg 240
ggccag 246

<210> 369
<211> 245
<212> DNA
<213> Homo sapiens

<400> 369
gtgagtgacc ccggccccgg ggcaggtca cgactcccca tccccacgg acggccccgg 60
tgcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcggggacc cgcccagacc 120
ctcgaccggc gagagcccca ggcgcggtta cccgggttca ttttcagtkg aggccagaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac gggctgacc cgggggccgg 240
gccag 245

<210> 370
<211> 245
<212> DNA
<213> Homo sapiens

<400> 370
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ctcgaccggc gagagcccca ggcgcggtta cccgggttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac gggctgacc cggggcctgg 240
gccag 245

<210> 371
<211> 245
<212> DNA
<213> Homo sapiens

<400> 371
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tgcgccccgag tctccgggtc cgagatccgc cccctgagg ccgcggggacc cgccccaaacc 120
ctcgaccggc gagagcccca ggcgcggtta cccgggttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac gggctgacc cggggcctgg 240
gccag 245

<210> 372
<211> 245
<212> DNA
<213> Homo sapiens

<400> 372
gtgagtgacc ccggcctggg ggcaggtca cgactcccca tccccacgt acggccccgg 60
tgcgccccgag tctccgggtc cgagatccgc cccctgagg ccgcggggacc cgccccaaacc 120
ctcgaccggc gagagcccca ggcgcggtta cccgggttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcggggggac gggctgacc cggggcctgg 240
gccag 245

<210> 373
<211> 245
<212> DNA

<213> Homo sapiens

<400> 373

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tcgccccgag tctccgggtc cgagatccgc cccctgagg ccgcgggacc cgcccaaac 120
ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gggctgaccg cggggcctgg 240
gccag 245
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<210> 374

<211> 245

<212> DNA

<213> Homo sapiens

<400> 374

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gtgagtgacc ccggccccggg ggcgaggtca cgactcccca tccccacgt acggccccgg 60
tcgccccgag tctccgggtc cgagatccga cccctgagg ccgcgggacc cgcccagacc 120
ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggact gggctgatcg cggggccggg 240
gccag 245
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<210> 375

<211> 245

<212> DNA

<213> Homo sapiens

<400> 375

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tcgccccga gtctccgggt ccgagatccg cctccctgag gccgcgggac ccgcccagac 120
cctcgaccgg cgagagcccc aggcgcgttt acccggtttc attttcagtt gaggccaaaa 180
tccccgcggg ttggtcgggr cggggcgggg ctcgggggac tgggctgacc gcgggaccgg 240
gccag 245
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<210> 376

<211> 243

<212> DNA

<213> Homo sapiens

<400> 376

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gtgagtgacc ccggccccggg ggcgaggtca cgacttccca tccccacgt acggccccgg 60
tcgcccagat ctccgggggt cgagatcacg cctccctgag gccgcgggac ccgcccagac 120
cctcgaccgg cgagagcccc aggcgcgttt acccggtttc attttcagtt gaggccaaaa 180
tccccgcggg ttggtcgggg cgggcgggct cgggggacgg ggctgaccgc gggccggggc 240
cag 243
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<210> 377

<211> 241

<212> DNA

<213> Homo sapiens

<400> 377

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cccagagtct cgggtccgag atccgcctcc ctgaggccgc gggaccgcc cagaccctcg 120
accggcgaga gcccaaggcg cgtttaccgg gtttcatttt cagttgaggg caaaatcccc 180
gcggttggt cggggcgggg cggggctcgg gggacggtgc tgaccgcggg gccggggcaa 240
g 241
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<210> 378
<211> 246
<212> DNA
<213> Homo sapiens

<400> 378
gtgagtgacc tcggccccggg ggcgagggtca cgactcccca tccccacgg acggccccggg 60
tcgccccgag tctccgggtc cgagatccgc ctccctgagg ccgcgggacc cggccagacc 120
ctcgaccggc gagagcccca ggcgcgttta cccggtttca ttttcagttg aggccaaaat 180
ccccgcgggt tgggcggggc ggggcggggc tcggggggac tgggctgacc gcgggggcgg 240
ggccag 246

<210> 379
<211> 244
<212> DNA
<213> Homo sapiens

<400> 379
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tcgccccgag tctccgggtc cgagatccgc cccgaaggc ccgcgggacc cggcagaacc 120
ctgaccggcg agagccccag cgcgtttacc cggtttcatt ttcagttgag gccaaaatcc 180
ccgcggggtg gtcggggcgg ggcgggggtc ggggggacgg ggctgaccgc ggggcggggg 240
ccaa 244

<210> 380
<211> 245
<212> DNA
<213> Homo sapiens

<400> 380
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tcgccccgag tcttcgggtc ccagatccgc ttccttgagg ccgcgggacc gccagacct 120
tcgaccggcg agagccccag ggcggtttac cgggtttcat tttcagttga ggcaaaatcc 180
cccgcgggtt ggtcggggcg gggcggggct cggggggact gggctgaccg cggggggcggg 240
ccagg 245

<210> 381
<211> 239
<212> DNA
<213> Homo sapiens

<400> 381
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cgccccgagtt ccgggtccga gatccacccc cctgaggccg ctgggaccgc cccagacct 120
cgaccggcga gagccccag cgcgtttacc cggtttcatt ttcagttgag accaaaatcc 180
ccgcggggtg gtcagggcgg gacgggggtc ggggacgggg ctgaccgggg ccgggccag 239

<210> 382
<211> 244
<212> DNA
<213> Homo sapiens

<400> 382
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gggtctcctc gagtctctag gtccgagatc cgccccaaag ccgcgggacc cggccagaac 120
ctcgaccgca gagagcccca ggcgacttta cccggtttca ttttcagttg aggtcaaat 180

ccccgcgggt tggtcggggc ggggcggggc tcgggggact ggctgaccgc gagggctggg 240
ccag 244

<210> 383
<211> 246
<212> DNA
<213> Homo sapiens

<400> 383
gtgagtgacc ccggccccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccc gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccggg gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acggggggcg 240
ggccag 246

<210> 384
<211> 246
<212> DNA
<213> Homo sapiens

<400> 384
gtgagtgacc ccggccccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccc gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acggggggcg 240
ggccag 246

<210> 385
<211> 246
<212> DNA
<213> Homo sapiens

<400> 385
gtgagtgacc ccggccccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccc gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acggggggcg 240
ggccag 246

<210> 386
<211> 246
<212> DNA
<213> Homo sapiens

<400> 386
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gggtcgcccc gagtctcccc gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acggggggcg 240
ggccag 246

<210> 387
<211> 246
<212> DNA
<213> Homo sapiens

<400> 387

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gggtcgcccc gagtctcccg gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acgggggcgg 240
ggccag 246
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<210> 388

<211> 246

<212> DNA

<213> Homo sapiens

<400> 388

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gggtcgcccc gagtctcccg gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acgggggcgg 240
ggccag 246
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<210> 389

<211> 245

<212> DNA

<213> Homo sapiens

<400> 389

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gggtcgcccc gagtctcccg gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac gggctgacca cgggggcggg 240
gccag 245
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<210> 390

<211> 245

<212> DNA

<213> Homo sapiens

<400> 390

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gggtcgcccc aagtctcccg gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gggctgaccg cgggggcggg 240
gccag 245
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<210> 391

<211> 245

<212> DNA

<213> Homo sapiens

<400> 391

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gtgagtgacc ccggccccggg ggcaggtca cgacccctcc tcatccccca cggacggccc 60
gggtcgcccc aagtctcccg gtctgagatc caccgagagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc ggggcggggc tcgggggacg gggctgaccg cgggggcggg 240
gccag 245
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<210> 392

<211> 246
<212> DNA
<213> Homo sapiens

<400> 392
gtgagtgacc ccggcccggg ggcgaggtca cgacccctcc tcatccccca cggacggccc 60
gggtcgcccc aagtctcccg gtctgagatc caccocgagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcgggac tggggcgggg ctcgggggac ggggctgacc acgggggcgg 240
ggccag 246

<210> 393
<211> 246
<212> DNA
<213> Homo sapiens

<400> 393
gtgagtgacc ccagcccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccg gtctgagatc ctccccgagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccta gtgccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acgggggcgg 240
ggccag 246

<210> 394
<211> 250
<212> DNA
<213> Homo sapiens

<400> 394
gtgagtgacc ccggcccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccg gtctgagatc caccocaagg tggatctgcg gaaccggccc 120
agaccctcga ccggagagag cccagtcgc ctttaccggg tttcattttc ggtttaggcc 180
aaaatccccg cgggttggtc ggggcggggc ggggctcggg ggaactgggct gaccgcgggg 240
gcggggccag 250

<210> 395
<211> 245
<212> DNA
<213> Homo sapiens

<400> 395
gtgagtgacc ccggcccggg ggcgaggtca cgacccctcc ccataccccca cggacggccc 60
gggtcgcccc gagtctcccg gtctgagatc caccocgagg ctgcggaacc cgcccagacc 120
ctcgcccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgcgagcg gtggtgacca cgggggcggc 240
gccag 245

<210> 396
<211> 600
<212> DNA
<213> Homo sapiens

<400> 396
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caaggagggg agacaattgg gaccaacact agaatatcgc cctccctctg gtccctgaggg 120
agaggaatcc tcttggttt ccagatcctg taccagagag tgactctgag gtcccgccct 180
gctctctgac acaattaagg gataaaatct ctgaaggaat gacgggaaga cgatccctcg 240


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aatactgatg agtgggttccc tttagacacac accggcagca gccttggggc cgtgactttt 300
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tctgagtccc tcagcctcca ctcagggtcag gaccagaagt cgctgttccc tcttcaggga 420
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gttctgtgct ccttcccca tcccagggtgt cctgtccatt ctcaagatag ccacatgtgt 540
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<210> 397
<211> 600
<212> DNA
<213> Homo sapiens

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<400> 397
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<210> 398
<211> 600
<212> DNA
<213> Homo sapiens

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<400> 398
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agaggaatcc tcctggggtt ccagatcctg taccagagag tgactctgag gttccgccct 180
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<210> 399
<211> 599
<212> DNA
<213> Homo sapiens

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<400> 399
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<210> 400
<211> 577
<212> DNA
<213> Homo sapiens

<400> 400
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cgggtgtcct gtccattctc aagatgggca catgcgtgct ggtggagtgt cccatgacag 540
atgcaaaatg cctgaatttt ctgactcttc ccgtcag 577

<210> 401
<211> 579
<212> DNA
<213> Homo sapiens

<400> 401
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caaggagggg agacaattgg gaccaacact agaatatcgc cctccctctg gtcctgaggg 120
agaggaatcc tcttgggttt ccagatcctg taccagagag tgactctgag gttccgcctct 180
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aatactgatg actggttccc ttgacaccgg gcagcagcct tgggaccgtg acttttctct 300
tcaggccttg ttctctgctt cacaactcaat gtgtgtgggg gtctgagtcc agcacttctg 360
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cccgggtgtc	ctgtccattc	tcaagatggc	cacatgcgtg	ctggtggagt	gtcccatgac	540
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<210> 404

<211> 574

<212> DNA

<213> Homo sapiens

<400> 404

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<210> 405

<211> 600

<212> DNA

<213> Homo sapiens

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<211> 600

<212> DNA

<213> Homo sapiens

<400> 406

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<210> 407
<211> 600
<212> DNA
<213> Homo sapiens

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<210> 408
<211> 575
<212> DNA
<213> Homo sapiens

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<210> 409
<211> 575
<212> DNA
<213> Homo sapiens

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<210> 410
<211> 574

<212> DNA

<213> Homo sapiens

<400> 410

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<210> 411

<211> 575

<212> DNA

<213> Homo sapiens

<400> 411

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gcaaagcgcc tgtattttct gactcttccc atcag 575
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<210> 412

<211> 575

<212> DNA

<213> Homo sapiens

<400> 412

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<210> 413

<211> 572

<212> DNA

<213> Homo sapiens

<400> 413

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<210> 414

<211> 572

<212> DNA

<213> Homo sapiens

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<210> 415

<211> 575

<212> DNA

<213> Homo sapiens

<400> 415

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<210> 416

<211> 575

<212> DNA

<213> Homo sapiens

<400> 416

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<211> 575
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<210> 418
<211> 575
<212> DNA
<213> Homo sapiens

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<210> 419
<211> 572
<212> DNA
<213> Homo sapiens

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<211> 571
<212> DNA
<213> Homo sapiens

<400> 420

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<210> 421

<211> 571

<212> DNA

<213> Homo sapiens

<400> 421

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<210> 422

<211> 572

<212> DNA

<213> Homo sapiens

<400> 422

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gatcaggagc agaagtctct gttcccgcct cagagactcg aactttccaa tgaatagatt 420
atcccagggt cctgcgtcca gctggtgtc tgggttctgt gtcccttccc cccccagggt 480
gtcctgtcca ttctcaggct ggtcacatgg gtggtcctag ggtgtcccat gagagatgca 540
aagcgctga attttctgac tcttcccatc ag 572
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<210> 423

<211> 572

<212> DNA

<213> Homo sapiens

<400> 423

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cgagaagaag aggaaaatgg gatcagcgct agaagtgcgc cctcccttga atggagaatg 120
gcatgagttt tcttgagttt cctctgaggg cccctcttc tctctaggac aattaaggga 180
tgacgtctct gaggaaatgg aggggaagac agtccctaga atactgatca ggggtccct 240
ttgacccctg cagcagcctt gggaaccatg acttttctc tcaggccttg ttctctgcct 300
cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca 360
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gatcaggagc agaagtctct gttccccgct cagagactcg aactttccaa tgaatagatt 420
atcccagggtg cctgcgtcca ggctgggtgc tgggtttctgt gccccttccc caccocagggt 480
gtcctgtcca ttctcaggct ggtcacatgg gtggctcctag ggtgtcccat gagagatgca 540
aagcgctga attttctgac tcttcccatc ag 572
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<210> 424
<211> 575
<212> DNA
<213> Homo sapiens

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<400> 424
gtaccagggg cagtggggag cctcccccat ctccatatagg tcgccgggga tggcctccca 60
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gcatgagttt tcttgagttt cctctgaggg cccctcttct tctctaggac aattaaggga 180
tgacgtctct gaggaaatgg aggggaagac agtccctaga atactgatca ggggtccctt 240
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cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca 360
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attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccaccccca 480
gggtgtcctg ccattctcag gctggtcaca tgggtggtcc taggggtgtcc catgagagat 540
gcaaagcgcc tgaattttct gactcttccc atcag 575
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<210> 425
<211> 575
<212> DNA
<213> Homo sapiens

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<400> 425
gtaccagggg cagtggggag cctgccccat ctccatatagg tcgccgggga tggcctccca 60
cgagaagagg aggaaaatgg gatcagcgct agaatgtcgc cctcccttga atggagaatg 120
gcatgagttt tcttgagttt cctctgaggg cccctcttct tctctaggac aattaaggga 180
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cacactcagt gtgtttgggg ctctgattcc agtacttctg agtcacttta cctccactca 360
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attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccaccccca 480
gggtgtcctg ccattctcag gctggtcaca tgggtggtcc taggggtgtcc catgaaagat 540
gcaaagcgcc tgaattttct gactcttccc atcag 575
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<210> 426
<211> 575
<212> DNA
<213> Homo sapiens

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<400> 426
gtaccagggg cagtggggag cctgccccat ctccatatagg tcggcgggga tgggctccca 60
cgagaagagg aggaaaatgg gatcagcgct agaatgtcgc cctcccttga atggagaatg 120
gcatgagttt tcttgagttt cctctgaggg cccctcttct tctctaggac aattaaggaa 180
tgacgtctct gaggaaatgg aggggaagac agtccctaga atactgatca ggggtccctt 240
ttgacccctg cagcagcctt gggaaccgtg acttttctct tcaggccttg ttctctgctt 300
cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca 360
gatcaggagc agaagtcctt gttccccgct cagagactcg aactttccaa tgaataggag 420
attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccaccccca 480
gggtgtcctg ccattctcag gctggtcaca tgggtggtcc taggggtgtcc catgaaagat 540
gcaaagcgcc tgaattttct gactcttccc atcag 575
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<210> 427

<211> 574
<212> DNA
<213> Homo sapiens

<400> 427
gtaccagggg cagtggggag cctcccccat ctctataggg tcgcggggga tggcctccca 60
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gcatgagttt tcctgagttt cctctgaggg cccctcttct tctctagaca attaaggaat 180
gacgtctctg aggaaatgga ggggaagaca gtccctagaa tactgatcag ggggtcccctt 240
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acactcagtg tgtttggggc tctgattcca gcacttctga gtcactttac ctccactcag 360
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ttatcccagg tgccctgcctc caggctgggt tctgggttct gtgccccttc cccaccccag 480
gtgtcctgtc cattctcagg ctggtcacat ggggtgtcct aggtgtctcc atgaaagatg 540
caaagcgctt gaattttctg actcttccca tcag 574

<210> 428
<211> 575
<212> DNA
<213> Homo sapiens

<400> 428
gtaccagggg cagtggggag ccttccccat ctctataggg tcgcggggga tggcctccca 60
cgagaagagg aggaaaatgg gatcagcgct agaatgtcgc cctcccttga atggagaatg 120
gcatgagttt tcctgagttt cctctgaggg cccctcttct tctctaggac aattaaggga 180
tgacgtctct gaggaatgg aggggaagac agtccctaga atactgatca ggggtcccct 240
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cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca 360
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attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccaccccca 480
gggtgtcctgt ccattctcag gctggtcaca tgggtgttcc taggtgttcc catgagagat 540
gcaaagcgcc tgaattttct gactcttccc atcag 575

<210> 429
<211> 575
<212> DNA
<213> Homo sapiens

<400> 429
gtaccagggg cagtggggag ccttccccat ctctataggg tcgcggggga tggcctccca 60
cgagaagagg aggaaaatgg gatcagcgct agaatgtcgc cctcccttga atggagaatg 120
gcatgagttt tcctgagttt cctctgaggg cccctcttct tctctaggac aattaaggga 180
tgacgtctct gaggaatgg aggggaagac agtccctaga atactgatca ggggtcccct 240
ttgacccttg cagcagcctt ggaaccgtg acttttctct tcaggccttg ttctctgcct 300
cacactcagt gtgtttgggg ctctgattcc agcacttctg agtcacttta cctccactca 360
gatcaggagc agaagtcctt gttccccgct cagagactcg aactttccaa tgaataggag 420
attatcccag gtgcctgcgt ccaggctggg gtctgggttc tgtgcccctt cccaccccca 480
gggtgtcctgt ccattctcag gctggtcaca tgggtgttcc taggtgttcc catgagagat 540
gcaaagcgcc tgaattttct gactcttccc atcag 575

<210> 430
<211> 587
<212> DNA
<213> Homo sapiens

<400> 430
gtaccagggg cagtggggag ccttccccat ctctgtaga tctccgggga tggcctccca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120

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ggatgagttt  tcctgagttt  cctctgaggg  cccctctgc  tctctaggac  aattaaggga  180
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ttgaccactt  tgaccactgc  agcagctgtg  gtcaggctgc  tgacctttct  ctcaggcctt  300
gttctctgcc  tcacgctcaa  tgtgtttaaa  ggtttgattc  cagcttttct  gagtccttcg  360
gcctccactc  aggtcaggac  cagaagtgcg  tgttccctcc  tcagagacta  gaactttcca  420
atgaatagga  gattatccca  ggtgcctgtg  tccaggctgg  cgtctggggt  ctgtgcccc  480
ttccccaccc  caggtgtcct  gtccattctc  aggatggtca  catgggcgct  gttggagtg  540
cgcaagagag  atacaaagtg  tctgaatttt  ctgactcttc  ccgtcag  587
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<210> 431
<211> 587
<212> DNA
<213> Homo sapiens

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<400> 431
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cgaggagggg  aggaaaatgg  gatcagcgt  agaatatcgc  cctcccttga  atggagaatg  120
ggatgagttt  tcctgagttt  cctctgaggg  cccctctgc  tctctaggac  aattaaggga  180
tgaagtcctt  gaggaaatgg  aggggaagac  agtccctgga  atactgatca  ggggtccctt  240
ttgaccactt  tgaccactgc  agcagctgtg  gtcaggctgc  tgacctttct  ctcaggcctt  300
gttctctgcc  tcacgctcaa  tgtgtttaaa  ggtttgattc  cagcttttct  gagtccttcg  360
gcctccactc  aggtcaggac  cagaagtgcg  tgttccctcc  tcagagacta  gaactttcca  420
atgaatagga  gattatccca  ggtgcctgtg  tccaggctgg  cgtctggggt  ctgtgcccc  480
ttccccaccc  caggtgtcct  gtccattctc  aggatggtca  catgggcgct  gttggagtg  540
cgcaagagag  atacaaagtg  tctgaatttt  ctgactcttc  ccgtcag  587
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<210> 432
<211> 587
<212> DNA
<213> Homo sapiens

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<400> 432
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cgaggagggg  aggaaaatgg  gatcagcgt  agaatatcgc  cctcccttga  atggagaatg  120
ggatgagttt  tcctgagttt  cctctgaggg  cccctctgc  tctctaggac  aattaaggga  180
tgaagtcctt  gaggaaatgg  aggggaagac  agtccctgga  atactgatca  ggggtccctt  240
ttgaccactt  tgaccactgc  agcagctgtg  gtcaggctgc  tgacctttct  ctcaggcctt  300
gttctctgcc  tcacgctcaa  tgtgtttgaa  ggtttgattc  cagcttttct  gagtccttcg  360
gcctccactc  aggtcaggac  cagaagtgcg  tgttccctcc  tcagagacta  gaactttcca  420
atgaatagga  gattatccca  ggtgcctgtg  tccaggctgg  cgtctggggt  ctgtgcccc  480
ttccccaccc  caggtgtcct  gtccattctc  aggatggtca  catgggcgct  gttggagtg  540
cgcaagagag  atacaaagtg  tctgaatttt  ctgactcttc  ccgtcag  587
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<210> 433
<211> 587
<212> DNA
<213> Homo sapiens

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<400> 433
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cgaggagggg  aggaaaatgg  gatcagcgt  agaatatcgc  cctcccttga  atggagaatg  120
ggatgagttt  tcctgagttt  cctctgaggg  cccctctgc  tctctaggac  aattaaggga  180
tgaagtcctt  gaggaaatgg  aggggaagac  agtccctaga  atactgatca  ggggtccctt  240
ttgaccactt  tgaccactgc  agcagctgtg  gtcaggctgc  tgacctttct  ctcaggcctt  300
gttctctgcc  tcacgctcaa  tgtgtttgaa  ggtttgattc  cagcttttct  gagtccttcg  360
gcctccactc  aggtcaggac  cagaagtgcg  tgttccctcc  tcagagacta  gaactttcca  420
atgaatagga  gattatccca  ggtgcctgtg  tccaggctgg  cgtctggggt  ctgtgcccc  480
ttccccaccc  caggtgtcct  gtccattctc  aggatggtca  catgggcgct  gttggagtg  540
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cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag

587

<210> 434
<211> 587
<212> DNA
<213> Homo sapiens

<400> 434
gtaccagggg cagtggggag ccttccccat ctctctgtaga tctcccggga tggcctccca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120
ggatgagttt tcttgagttt cctctgaggg cccctctcgc tctctaggac aattaaggga 180
tgaagtcctt gaggaaatgg aggggaagac agtccctaga atactgatca ggggtccctt 240
ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300
gttctctgcc tcacgctcaa tgtgtttgaa ggtttgatc cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcgct gttggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

<210> 435
<211> 588
<212> DNA
<213> Homo sapiens

<400> 435
gtaccagggg cagtggggag ccttccccat ctctctgtaga tctcccggga tggcctccca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120
ggatgagttt tcttgagttt cctctgaggg cccctctcgc tctctaggac aattaaggga 180
tgaagtcctt gaggaaatgg aggggaagac agtccctgga atactgatca ggggtccctt 240
ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300
gttctctgcc tcacgctcaa tgtgtttgaa ggtttgatc cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
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cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 588

<210> 436
<211> 587
<212> DNA
<213> Homo sapiens

<400> 436
gtaccagggg cagtggggag ccttccccat ctcccgtaga tctcccggca tggcctccca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120
ggatgagttt tcttgagttt cctctgaggg cccctctcgc tctctaggac aattaaggga 180
tgaagtcctt gaggaaatgg aggggaagac agtccctgga atactgatca ggggtccctt 240
ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300
gttctctgcc tcacgctcaa tgtgtttgaa ggtttgatc cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcgct gttggagtgt 540
cgcaagagag aaacaaagtg tctgaatttt ctgactcttc ccgtcag 587

<210> 437
<211> 587
<212> DNA
<213> Homo sapiens

<400> 437

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gtaccagggg cagtggggag ccttcccat ctctgtaga tctccggga tggcctcca 60
cgaggagggg aggaaaatgg gatcagcgct ggaatatcgc cctcccttga atggagaatg 120
ggatgagttt tctgagttt cctctgaggg cccctctgc tctctaggac aattaaggga 180
tgaagtcctt gaggaatgg aggggaagac agtccctgga atactgatca ggggtccct 240
ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300
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gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcact gttggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

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<210> 438

<211> 587

<212> DNA

<213> Homo sapiens

<400> 438

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gtaccagggg cagtggggag ccttcccat ctctgtaga tctccggga tggcctcca 60
cgaggagggg aggaaaatgg gatcagcgct ggaatatcgc cctcccttga atggagaatg 120
ggatgagttt tctgagttt cttctgaagg cccctctgc tctctaggac aattaaggga 180
tgaagtcctt gaggaatgg aggggaagac agtccctgga atactgatca ggggtccct 240
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gttctctgcc tcacgctcaa tgtgtttaaa ggtttgattc cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcact gttggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

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<210> 439

<211> 587

<212> DNA

<213> Homo sapiens

<400> 439

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gtaccagggg cagtggggag ccttcccat ctctgtaga tctccggga tggcctcca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120
ggatgagttt tctgagttt cctctgaggg cccctctgc tctctaggac aattaaggga 180
tgaagtcctt gaggaatgg aggggaagac agtccctgga atactgatca ggggtccct 240
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gcctccactc aggtcaggac cagaagtcgc tgttccctcc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catggccgct gttggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

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<210> 440

<211> 587

<212> DNA

<213> Homo sapiens

<400> 440

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gtaccagggg cagtggggag ccttcccat ctctataga tctccggga tggcctcca 60
cgaggagggg aggaaaatgg gatcagcgct agaatatcgc cctcccttga atggagaatg 120
ggatgagttt tcccagttt cctctgaggg cccctctgc tctctaggac aattaaggga 180
tgaagtcctt gaggaatgg aggggaagac agtccctgga atactgatca ggggtccct 240
ttgaccactt tgaccactgc ggcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300

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gttctctgcc tcacactcaa tgtgtctgaa ggtttgatto cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtcgc tgttcctccc tcagagacta gaactttcca 420
aagaatagga gattatccca ggtccctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccctaccc caggtgtcct gtccattctc aggatggtca catgggcgct gctggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

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<210> 441
 <211> 587
 <212> DNA
 <213> Homo sapiens

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<400> 441
gtaccagggg cagtggggag ccttccccat ctctataga tctcccgga tggcctccca 60
cgaggagggg aggaaaatgg gatcagcact ggaatatcgc cctcccttga atggagaatg 120
gcatgagttt tcctgagttt cctctgaggg cccctctgct tctctaggac aattaagggg 180
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ttgaccactt tgaccactgc agcagctgtg gtcaggctgc tgacctttct ctcaggcctt 300
gttctctgcc tcacactcaa tgtgtctgaa ggtttgatto cagcttttct gagtcctgca 360
gcctccactc aggtcaggac cagaagtcgc tgttcctccc tcagagacta gaactttcca 420
atgaatagga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc caggtgtcct gtccattctc aggatggtca catgggcgct gctggagtgt 540
cccaagagag atgcaaagtg tctgaatttt ctgactcttc ccgtcag 587

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<210> 442
 <211> 245
 <212> DNA
 <213> Homo sapiens

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<400> 442
gtgagtgacc cgggccccgg ggcaggtca cgactcccca tccccacgt acggccccgg 60
tcgccccgag tctccgggtc cgagatccgc cccctgaggg cgcgggaccc gccagaccc 120
tcgaccggcg agagccccag gcgcgtttac ccggtttcat tttcagttga ggccaaaatc 180
cccgcgggtt ggtcggggcg gggcggggct cggggggacg gggctgaccg cggggccggg 240
gccag 245

```

<210> 443
 <211> 246
 <212> DNA
 <213> Homo sapiens

```

<400> 443
gtgagtgacc cgggccccgg ggcaggtca cgacctctcc ccatacccca cggacggccc 60
gggtgcggcc gagtctcccc gtctgagatc caccgcgagg ctgcggaacc cgcccagacc 120
ctcgaccgga gagagcccca gtcaccttta cccggtttca ttttcagttt aggccaaaat 180
ccccgcgggt tggtcggggc tggggcgggg ctcgggggac ggggctgacc acggggggcg 240
ggccag 246

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<210> 444
 <211> 598
 <212> DNA
 <213> Homo sapiens

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<400> 444
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caaggagggg agacaattgg gaccaacact agaatatcgc cctccctctg gtctgaggg 120
agaggaatcc tcctgggttt ccagatcctg taccagagag tgactctgag gtccgcct 180
gtctctgac acaattaagg gataaaatct ctgaaggaat gacgggaaga cgatccctcg 240

```

```

aatactgatg agtgggttccc tttagacacac accggcagca gccttggggc cgtgactttt 300
cctctcaggc cttgtttctct gcttcacact caatgtgtgt gggggtctga gtccagcact 360
tctgagtcctc tcagcctcca ctcaggtcag gaccagaagt cgctgttccc tcttcaggga 420
ctagaatttt ccacggaata ggagattatc ccagggtgct gtgtccaggc tgggtgtctgg 480
gttctgtgct cccttcccca tcccagggtgt cctgtccatt ctcaagatag ccacatgtgt 540
gctggaggag tgtcccatatc agatgcaaat gcctgaatgt tctgactctt cctgacag 598

```

<210> 445
 <211> 574
 <212> DNA
 <213> Homo sapiens

```

<400> 445
gtaccagggg cagtggggag ccttccccat ctcttatagg tcgccgggga tggcctccca 60
cgagaagagg aggaaaatgg gatcagcgct agaatgtcgc cctcccttga atggagaatg 120
gcatgagttt tcctgagttt cctctgaggg cccctcttct tctctaggac aattaaggga 180
tgacgtctct gaggaatgg aggggaagac agtccctaga atactgatca ggggtcccct 240
ttgacccctg cagcagcctt gggaccgtga ctttctctct caggccttgt tctctgcctc 300
acactcagtg tgtttggggc tctgattcca gcacttctga gtcactttac ctccactcag 360
atcaggagca gaagtcctctg ttccccgctc agagactcga actttccaat gaataggaga 420
ttatcccagg tgcttgcctc caggctgggtg tctgggttct gtgccccttc cccaccccag 480
gtgtcctgtc cattctcagg ctggtcacat ggggtggtct aggggtgtcc atgagagatg 540
caaagcgctt gaattttctg actcttccca tcag 574

```

<210> 446
 <211> 587
 <212> DNA
 <213> Homo sapiens

```

<400> 446
gtaccagggg cagtggggag ccttccccat ctctgtaga tctcccgga tggcctccca 60
cgaggagggg aggaaaatgg gatcagcgct agaatacgc cctcccttga atggagaatg 120
ggatgagttt tcctgagttt cctctgaggg cccctctgct tctctaggac aattaaggga 180
tgaagtcctt gaggaatgg aggggaagac agtccctgga atactgatca ggggtcccct 240
ttgaccactt tgaccactgc agcagctgtg gtcaggtgc tgacctttct ctcaggcctt 300
gttctctgcc tcacgtctca tgtgtttgaa ggtttgattc cagcttttct gagtccttcg 360
gcctccactc aggtcaggac cagaagtgc tggttctccc tcagagacta gaactttcca 420
atgaatatga gattatccca ggtgcctgtg tccaggctgg cgtctgggtt ctgtgcccc 480
ttccccaccc cagggtgtct gtccattctc aggatggtca catgggcgct gttggagtgt 540
cgcaagagag atacaaagtg tctgaatttt ctgactcttc ccgtcag 587

```